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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Poul Bach

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EXAMINER

METZMAIER, DANIEL S

ART UNIT

PAPER NUMBER

1762

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents-US-NY@novozymes.com

Office Action Summary	Application No. 10/682,094	Applicant(s) BACH ET AL.	
	Examiner DANIEL S. METZMAIER	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18-20, 27-38 and 40-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-20, 27-38 and 40-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/5/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-16, 18-20, 27-38 and 40-43 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 January 2011 (Amendment and IDS) have been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-16, 18-20, 27-38 and 40-43 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of contacting either dispersible materials with water, oil or aqueous liquids; or fully water soluble particulate materials contacted with oil; does not reasonably provide enablement for making particulate compositions by contacting a particulate starting material that is **fully water soluble material** (see independent claims) with liquid, *e.g.*, **water and aqueous liquid** (claims 13 and 14), to form a mixture that results in a particulate composition. The specification does not enable any person skilled in the art to which it pertains, or

with which it is most nearly connected, to make the invention commensurate in scope with these claims.

None of the claims set forth limitation on the concentration of the particulate within the liquid.

Applicants process steps read on dissolution of solute materials in water or aqueous liquid, *i.e.*, dissolved and non-particulate. Applicants' specification does not adequately describe how to carry out the methods wherein the particulate starting materials is fully soluble in water when water or aqueous liquid is the liquid.

All the claims are generic to the liquid as water or aqueous liquid except claims 13, wherein water is claimed alternatively, or claim 14, wherein the liquid is aqueous.

It is noted, the instant examples disclose starting particulate materials including sodium sulfate with a number of other additives including but not limited to starch, cellulose, dextrin, and sorbitol with water as the liquid. The only starting material characterized with a particle size is the sodium sulfate. The solubility of sodium sulfate is ~ 28.1 grams / 100 ml water @ 25 °C. The instant example 1 employs a mixture comprising 20 Kg of sodium sulfate in 5000 g of water. This equates to 80 wt % of, which is well above the solubility of said sodium sulfate (*e.g.*, example 1 has a mixture comprising 20 Kg sodium sulfate in 5000 g of water or 80 wt % of sodium sulfate in water). Assuming the examples are done at about room temperature, said exemplified material is not a **fully water soluble material** as now claimed.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-16, 18-20, 27-38 and 40-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' preamble in the independent claims is inconsistent with the scope of the claimed subject matter sought for patent or the claims are incomplete regarding the method of preparing a particulate material. It is unclear how a particulate starting material that is **fully water soluble material** (see independent claims) and is mixed with liquid, *e.g.*, **water and aqueous liquid** (claims 13 and 14), to form a mixture can possibly result in a particulate composition without some other processing step.

All the claims are generic to the liquid as water or aqueous liquid except claims 13, wherein water is claimed alternatively, or claim 14, wherein the liquid is aqueous. Applicants claims do not specify the conditions the particulate materials is a **fully water soluble material**.

Furthermore, it is unclear how applicants define the terms: **fully water soluble**. It is unclear what conditions said particles are fully water soluble. Applicants set forth water solubility as:

Water soluble:

"Water soluble" **particulate materials or fractions of materials** in the context of the present invention are understood to be particulate materials of fractions of materials of which at least 50 g/l and more particularly, at least 80 g/l dissolve in water at a temperature of 30 °C. (emphasis added).

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It is further unclear what fractions of particulate materials make up the “at least 50 g/l and more particularly, at least 80 g/l dissolve in water at a temperature of 30°C”. The concentrations of 50 g/ l and 80 g/l equate to 5 wt % and 8 wt %, respectively.

Claim 15 is indefinite since it is unclear how the particulate material is both fully water soluble and a saturated solution. Saturation requires a solubility limit. Thus, a particulate that forms a saturated aqueous solution would not be fully water soluble.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. The following rejections are based on the premise that the starting particulates are fully water soluble under some conditions, which may include heating, infinite dilution, etc..

10. Claims 1, 4-10, 12-16, 18-20, 27-29, 34-35, 38 and 40-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over James et al, US 5,556,834. James et al (examples 13 and 14) disclose stabilizing 1 Kg of sodium percarbonate particles by coating the particles in a high shear mixer, wherein 90 wt % of the particles are within the size range of 850 and 425 microns.

The 1 Kg of sodium percarbonate particles were coated with about 150 gm (~ 15 wt %) or 117 gm (~ 12 wt %) coating solution. The particle size change was less than 20 wt % (Δ size within 850 to 425 μm = $90 - 87 = 3$ % or $90 - 74 = 16$ %) particles within the same size range 850 and 425 μm . Said Δ size within 850 to 425 μm is characterized as coating without undue agglomeration.

The mixer was a Lodige M5 mixer at 100 rpm. The sodium percarbonate is a fully water soluble material at a concentration of at least 50 g/l (*i.e.*, 50,000 ppm or 5.0 wt %) in water at a temperature of 30 °C.

To the extent that the James et al reference differs from the claims in (1) the characterization of the particle size (*e.g.*, less than 800 μm (claim 7)), (2) more than 80 % of the particles remain un-agglomerated, or (3) the shear rate as high shear (*e.g.*, 0.5 to

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3 s^{-1} (claim 18)), (1)(3) the Lodige M5 mixer is inherently a high shear device for granulating and some variation in the shear rate and particle size would have been expected for the desired mixing to achieve the granular product. It is noted that the instantly claimed range is greater than $50 \text{ }\mu\text{m}$ (claim 4), more preferably greater than $200 \text{ }\mu\text{m}$ (claim 6) and less than $800 \text{ }\mu\text{m}$ (claim 7).

(2) The limitation of more than 80 % of the particles remain un-agglomerated is clearly envisaged and/or at least suggested by the fact that the difference between the starting particle size and the coated particle size is 3 % or 16 % and James et al discloses coating without undue agglomeration.

Furthermore, the coated particles would be expected to include comminuted particles having particle sizes less than $425 \text{ }\mu\text{m}$. These comminuted particle would be outside of the size range of 850 to $425 \text{ }\mu\text{m}$, contributing to the difference in percentage within the range and would not be clearly agglomerated (*i.e.*, the Δ particle size within 850 to $425 \text{ }\mu\text{m}$ due to agglomeration would be expected to be less than 3 % or 16 %).

Claim 8 and 9 would have been expected to have been inherent and/or obvious since James et al (8:33-34) discloses the bulk density of the coated particles to be 0.8 to 1.2. Since the bulk density varies based on particle packing and the true density as measured by displacing the granules in liquid (see specification at page 8, lines 21-25), it is reasonable to expect starting materials having ~ 10 % wt coating to have a true density of at least 1.3 g/ml or at least 1.5 g/ml .

Furthermore, see MPEP 2144.05(I) wherein it sets forth, “A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but

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are close enough that one skilled in the art would have expected them to have the same properties. ***Titanium Metals Corp. of America v. Banner***, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).”

11. Claim 27-30 is rejected under 35 U.S.C. 103(a) as being unpatentable over James et al, US 5,556,834. James et al (examples 13 and 14) disclose stabilizing 1 Kg of sodium percarbonate particles by coating the particles in a high shear mixer, wherein 90 wt % of the starting particles are within the size range of 850 and 425 μ m and 87 wt % or 74 wt % of the coated particles are within the size range of 850 and 425 μ m.

To the extent James et al differs from claims 27-30 in the percentage of un-agglomerated particles remaining un-agglomerated, James et al state (11:65-67) it is possible to coat particles without undue agglomeration and exemplifies (examples 13 and 14) processes appearing to have more than 80 % of starting particles remain un-agglomerated. See also MPEP 2144.05(I) and ***Titanium Metals Corp. of America v. Banner***, *supra*.

12. Claims 2-3 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over James et al, US 5,556,834, as applied to claims 1, 4-7, 10, 12-16, 18-20, 27-30, 34-35, 38 and 40-43 above, and further in view of Roesler et al, US 6,086,785.

James et al (examples 13 and 14; and col. 11:65-67) disclose stabilizing 1 Kg of sodium percarbonate particles by coating the particles in a high shear mixer, wherein 90 wt % of the starting particles are within the size range of 850 and 425 μ m and 87 wt % or 74 wt % of the coated particles are within the size range of 850 and 425 μ m.

James et al differs from the claims 2-3 and 36-37 in the fractionating steps.

Roesler et al disclose (TABLE 1) determining sieve fractions of the coated sodium percarbonate materials, which have been coated in a Lodige mixer (5:54 et seq, especially 58 et seq; example 1) at a speed of 200 rpm. Roesler et al clearly disclose sieve separation of the various particle sizes.

These references are combinable because they teach stabilizing by stabilizing coating sodium percarbonate materials in Lodige mixers. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ fractionate and/or separate the desired particle size as clearly taught and/or suggested in the Roesler et al reference.

13. Claims 1-7, 10-11, 27-38 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simonsen, US PG PUB 2002/0119201¹, in view of Markussen et al, US 4,106,991.

Simonsen (examples, especially example 1) discloses coating enzyme granulates. Said enzyme granulates are produced according to a modified method of example 1 of US 4,106,991 (to Markussen et al) and coated by the method of example 22 of US 4,106,991. Said enzyme granulates comprise Savinase (a protease), sodium sulfate, carbohydrate binder (Glucidex) and methionine (antioxidant).

Markussen et al (example 1) produces enzyme granulates having an average particle diameter of 600 μm . Markussen et al (example XXII or 22) discloses further sieving granulates to obtain granulates in the range of 300 to 840 μm .

¹ Simonsen, US PG PUB 2002/0119201, qualifies as prior art under 35 U.S.C. 102(b) since the Provisional Application No. 60/417,577, filed on 10 October 2002, lacks adequate support for the claims as now claimed. Specifically, 60/417,577 lacks support for the limitation, "wherein more than 80% of the

Simonsen ([0092]) disclose application of lubricant reduces dusting and risk of breakage (*i.e.*, higher average particle strength) and that particle agglomeration can be inhibited by powdering with a dry particulate or significantly prevented by lowering the amount of lubricant to less than 1 w/w % of the lubricated granule.

These references are combinable because Markussen et al is specifically referenced in the Simonsen reference. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the lubricant amount to values less than 1 w/w % taught in Simonsen to substantially prevent agglomeration. The claimed liquid amount of "not exceeding 20 % by weight" reads on the Simonsen liquid lubricant amount of less than 1 w/w %.

It is reasonable to expect that the limitation, "wherein more than 80% of the particles in the particulate starting material remain un-agglomerated", reads on and/or is at least suggested by the Simonsen characterization to prevent significant agglomeration ([0092]). Merely modifying the process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality for a result-effective variable, *i.e.*, a variable which achieves a recognized result. The amounts of the lubricant, powdering agents (*i.e.*, anti-agglomerating agents) and process temperatures are clearly taught as result-effective variables.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simonsen, US PG PUB 2002/0119201², in view of Markussen et al, US 4,106,991, as

particles in the particulate starting material remain un-agglomerated". Therefore, the claims of Application No. 10/682,094 have the filing date of 09 October 2003.

² Simonsen, US PG PUB 2002/0119201, qualifies as prior art under 35 U.S.C. 102(b) since the Provisional Application No. 60/417,577, filed on 10 October 2002, lacks adequate support for the claims

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applied to claims 1-7, 10-11, 27-38 and 40-43 above, and further in view of Lödige et al, US 3,027,102.

Simonsen in view of Markussen et al discloses coating enzyme granulates as set forth in the preceding rejection. The citations and reasoning is herein incorporated by reference.

Markussen et al (6:18-26) disclose mixers as shown in US 3,027,102 to Lödige et al as the equipment useful in the disclosed methods.

Lödige et al disclose high shear mixers. Applicants (page 16, lines 29-32; examples at 19:10; 20:7-8; and 21:10-11) disclose the use of Lödige mixers.

These references are combinable because Lödige et al is specifically referenced in the Markussen et al as suitable mixing apparatus. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the mixing speeds of the Lödige et al mixing apparatus

15. Claims 8 and 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simonsen, US PG PUB 2002/0119201³, in view of Markussen et al, US 4,106,991, and Lödige et al, US 3,027,102, as applied to claims 1-7, 10-11, 27-38 and 40-43 above, and further in view of Novozymes A/S, WO 01/23513 A1⁴.

as now claimed. Specifically, 60/417,577 lacks support for the limitation, "wherein more than 80% of the particles in the particulate starting material remain un-agglomerated". Therefore, the claims of Application No. 10/682,094 have the filing date of 09 October 2003.

³ Simonsen, US PG PUB 2002/0119201, qualifies as prior art under 35 U.S.C. 102(b) since the Provisional Application No. 60/417,577, filed on 10 October 2002, lacks adequate support for the claims as now claimed. Specifically, 60/417,577 lacks support for the limitation, "wherein more than 80% of the particles in the particulate starting material remain un-agglomerated". Therefore, the claims of Application No. 10/682,094 have the filing date of 09 October 2003.

⁴ Cited in Applicants' PTO-1449 form, filed 09 October 2003.

Simonsen in view of Markussen et al and Lödige et al discloses coating enzyme granulates as set forth in the preceding rejection. The citations and reasoning is herein incorporated by reference.

Simonsen in view of Markussen et al and Lödige et al differ from claims 8 and 9 in the explicit characterization of the density of the core materials to be coated.

Novozymes A/S '513 (abstract; page 1: lines 4 et seq) compositions comprising solid particles dispersed therein, which are wax materials having an active components distributed therein. Novozymes A/S '513 (2 to 3: 35 to 4) teaches the desire to inhibit agglomeration. Novozymes A/S '513 (4:17-22) disclose the advantages of lowering dusting and toxicity of the actives by coating said actives. Novozymes A/S '513 (5 to 6:35 to 2) teach as an example particles of 1.5 g/cm^3 to 2.5 g/cm^3 .

Novozymes A/S '513 (7:17-21; and 9:10-20) disclose waxes include polyethylene glycols (PEG), such as PEG 1500 or PEG 4000. Novozymes A/S '513 (11:7 et seq, especially 27 et seq) disclose enzymes as actives.

Novozymes A/S '513 (25:17-35) disclose the conventional steps of sieving and separating undesirable particles. Novozymes A/S '513 (example 1, 40:32-33) disclose materials having a true density of 1.25 g/ml , which is more than twice the bulk density of 0.54 g/ml .

These references are combinable because they teach granular enzyme products. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ starting enzymes having a true density of at least 1.3 g/cm^3 or at

least 1.5 g/cm^3 as taught in the Novozymes A/S '513 reference as conventional functional equivalents for the advantages taught in the Novozymes A/S '513 reference.

Response to Arguments

16. Applicant's arguments filed 05 January 2011 have been fully considered but they are not persuasive.

17. Applicants (page 7, response of 05 January 2011) assert the specification at page 2, lines 18-19; page 5 (lines 3-10); and page 12, lines 20-27; set forth that the particles are fully water soluble. This has not been deemed persuasive for the following reasons.

(i) Initially, the claims set forth a limitation, "wherein the particulate starting material is fully water soluble". Applicants at page 2, lines 18-19, when read in context refers to the final particles. Applicants at page 5, lines 3-10, do refer to the materials used to produce the particles are fully water soluble. Neither citations set forth the conditions that said materials are fully water soluble.

(ii) Instant example 1 employs a mixture comprising 20 Kg of sodium sulfate in 5000 g of water, wherein sodium sulfate is clearly not fully water soluble since the solubility of sodium sulfate is $\sim 28.1 \text{ grams} / 100 \text{ mL water @ } 25^\circ\text{C}$. 20 Kg of sodium sulfate in 5000 g of water equates to $\sim 400 \text{ grams} / 100 \text{ mL water}$.

(iii) Furthermore, approximately 1 gram of sucrose (*i.e.*, sugar) dissolves in 0.2 mL of boiling water or 17 wt % water. See claim 12 directed to sugar and claims 13 and 14 directed to water and aqueous liquid. Applicants have not set forth methods

employing starting materials that are “fully water soluble therein”, under what conditions said starting materials are fully water soluble.

The scope of applicants’ claims is not commensurate with their disclosure and said disclosure lacks any definition or determination of the limitation, “wherein the particulate starting material is fully water soluble”.

(1) The claims appear inconsistent since the exemplified methods employ material that is clearly not fully water soluble in the method.

(2) Also, the claims further clearly include materials (*i.e.* sugar) that would completely dissolve under conditions within the claimed method. Thus, the dissolved particles would not result in particles having improved average strength.

18. Applicants (pages 7 and 8) assert that the skilled artisan knows and understands how to contact a fully water soluble material with water without it going immediately into solution. Applicants further assert some experimentation may be required but it would not be undue experimentation. This has not been deemed persuasive for the issues set forth herein above. The scope of applicants' claims has not been deemed adequately enabled, the conditions that the particulate starting material is fully water soluble is undefined and the examples do not set forth particulate starting material that is fully water soluble in the method.

19. Applicant's arguments with respect to claims 1-16, 18-20, 27-38 and 40-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Appel et al, US 5,164,108 and US 5,133,924, are deemed particularly relevant since they teach methods of treating particulate materials to high shear apparatus (*e.g.*, Lödige CB 30 recycler and KM 300 mixer, Shugi Granulator, Drais K-TTP 80 and K-T 160 (see US '108 4:18-36 and 5:30-39; or '924 5:1-25 and 5 to 6:65 to 6)) for the advantage of increasing the density thereof.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL S. METZMAIER whose telephone number is (571)272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/DANIEL S. METZMAIER/
Primary Examiner, Art Unit 1762**

DSM